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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/909,796

DATE 11/06/2001

TIME 15:11:40

Input Set : A:\10799-13 Sequence Listing.txt

Output Set: N:\CRF3\11062001\I909796.raw

4 <110> APPLICANT: TAYLOR, Catherine, et al.

W--> 5 <120> TITLE OF INVENTION: DNA ENCODING APOPTOSIS-INDUCED EUCARYOTIC INITIATION FACTOR-5A AND

W--> 6 DEOXYHYPUSINE SYNTHASE AND A METHOD FOR CONTROLLING APOPTOSIS IN ANIMALS AND

W--> 7 HUMANS

9 <130> FILE REFERENCE: 10799/13

11 <140> CURRENT APPLICATION NUMBER: 09/909,796

C--> 12 <141> CURRENT FILING DATE: 2001-10-15 04

14 <160> NUMBER OF SEQ ID NOS: 21

16 <170> SOFTWARE: FastSEQ for Windows Version 4.0

18 <210> SEQ ID NO: 1

19 <211> LENGTH: 1139

20 <212> TYPE: DNA

21 <213> ORGANISM: Rodent

23 <220> FEATURE:

24 <221> NAME/KEY: CDS

25 <222> LOCATION: (33)...(497)

27 <400> SEQUENCE: 1

28 caggtctaga gttggaatcg aagcctctta aa atg gca gat gat ttg gac ttc 53

29 Met Ala Asp Asp Leu Asp Phe

30 1 5

32 gag aca gga gat gca ggg gcc tca gcc acc ttc cca atg cag tgc tca 101

33 Glu Thr Gly Asp Ala Gly Ala Ser Ala Thr Phe Pro Met Gln Cys Ser

34 10 15 20

36 gca tta cgt aag aat ggt ttt gtg gtg ctc aag ggc cgg cca tgt aag 149

37 Ala Leu Arg Lys Asn Gly Phe Val Val Leu Lys Gly Arg Pro Cys Lys

38 25 30 35

40 atc gtc gag atg tct act tcg aag act ggc aag cat ggc cat gcc aag 197

41 Ile Val Glu Met Ser Thr Ser Lys Thr Gly Lys His Gly His Ala Lys

42 40 45 50 55

44 gtc cat ctg gtt ggt att gat att ttt act ggg aag aaa tat gaa gat 245

45 Val His Leu Val Gly Ile Asp Ile Phe Thr Gly Lys Lys Tyr Glu Asp

46 60 65 70

48 atc tgc ccg tcg act cat aac atg gat gtc ccc aac atc aaa agg aat 293

49 Ile Cys Pro Ser Thr His Asn Met Asp Val Pro Asn Ile Lys Arg Asn

50 75 80 85

52 gat ttc cag ctg att ggc atc cag gat ggg tac cta tcc ctg ctc cag 341

53 Asp Phe Gln Leu Ile Gly Ile Gln Asp Gly Tyr Leu Ser Leu Leu Gln

54 90 95 100

56 gac agt ggg gag gta cga gag gac ctt cgt ctg cct gag gga gac ctt 389

57 Asp Ser Gly Glu Val Arg Glu Asp Leu Arg Leu Pro Glu Gly Asp Leu

58 105 110 115

60 ggc aag gag att gag cag aag tat gac tgt gga gaa gag atc ctg atc 437

61 Gly Lys Glu Ile Glu Gln Lys Tyr Asp Cys Gly Glu Glu Ile Leu Ile

62 120 125 130 135

64 aca gtg ctg tcc gcc atg aca gag gag gca gct gtt gca atc aag gcc 485

65 Thr Val Leu Ser Ala Met Thr Glu Glu Ala Ala Val Ala Ile Lys Ala

66 140 145 150

ENTERED

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68 atg gca aaa taa ctggcttcca ggggtggcggg ggtggcagca gtgatccatg      537
69 Met Ala Lys  *
72 agcctacaga ggccccctccc ccagctctgg ctggggccctt ggctggactc ctatccaatt 597
73 tattttgaagt tttatttttgg ttttcctcac cccttcaaac tgtcggggag accctgccct 657
74 tcacctagct cccttggcca ggcattgagg agccatggcc ttgggtgaagc tacctgcctc 717
75 ttctctcgca gccctgatgg gggaaaggga gtgggtactg cctgtggttt aggttccctt 777
76 ctcccttttt ctttttaatt caatttggaa tcagaaagct gtggattctg gcaaattggtc 837
77 ttgtgtcctt tateccactc aaacccatct ggtccctgt tctccatagt ccttcacccc 897
78 caagcaccac tgacagactg gggaccagcc cccttccctg cctgtgtctc ttcctaaacc 957
79 cctctatagg ggtgacaaga agaggagggg gggaggggac acgatccctc ctcaggcatc 1017
80 tgggaaggcc ttgcccccat gggttttacc ctttctgtg ggctttctcc ctgacacatt 1077
81 tgttaaaaaa caaacctgaa taaaactaca agtttaatat gaaaaaaaaa aaaaaaaaaa 1137
82 aa                                     1139

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84 <210> SEQ ID NO: 2

85 <211> LENGTH: 154

86 <212> TYPE: PRT

87 <213> ORGANISM: Rodent

89 <400> SEQUENCE: 2

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90 Met Ala Asp Asp Leu Asp Phe Glu Thr Gly Asp Ala Gly Ala Ser Ala
91 1           5           10           15
92 Thr Phe Pro Met Gln Cys Ser Ala Leu Arg Lys Asn Gly Phe Val Val
93           20           25           30
94 Leu Lys Gly Arg Pro Cys Lys Ile Val Glu Met Ser Thr Ser Lys Thr
95           35           40           45
96 Gly Lys His Gly His Ala Lys Val His Leu Val Gly Ile Asp Ile Phe
97           50           55           60
98 Thr Gly Lys Lys Tyr Glu Asp Ile Cys Pro Ser Thr His Asn Met Asp
99 65           70           75           80
100 Val Pro Asn Ile Lys Arg Asn Asp Phe Gln Leu Ile Gly Ile Gln Asp
101           85           90           95
102 Gly Tyr Leu Ser Leu Leu Gln Asp Ser Gly Glu Val Arg Glu Asp Leu
103           100          105          110
104 Arg Leu Pro Glu Gly Asp Leu Gly Lys Glu Ile Glu Gln Lys Tyr Asp
105           115          120          125
106 Cys Gly Glu Glu Ile Leu Ile Thr Val Leu Ser Ala Met Thr Glu Glu
107           130          135          140
108 Ala Ala Val Ala Ile Lys Ala Met Ala Lys
109 145          150

```

112 <210> SEQ ID NO: 3

113 <211> LENGTH: 462

114 <212> TYPE: DNA

115 <213> ORGANISM: Rodent

117 <400> SEQUENCE: 3

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118 atggcagatg acttggactt cgagacagga gatgcagggg cctcagccac ctteccaatg 60
119 cagtgtctcag cattacgtaa gaatggcttt gtgggtctca aaggccggcc atgtaagatc 120
120 gtcgagatgt ctacttcgaa gactggcaag cagggccacg ccaaggtcca tctggttggt 180
121 attgacatct ttactgggaa gaaatatgaa gatattctgc cgtcaactca taatatggat 240
122 gtccccaaca tcaaaaggaa tgacttccag ctgattggca tccaggatgg gtacctatca 300
123 ctgtctccagg acagcgggga ggtacgagag gaccttcgtc tccctgaggg agaccttggc 360

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```

124 aaggagattg agcagaagta cgactgtgga gaagagatcc tgatcacggt gctgtctgcc 420
125 atgacagagg aggcagctgt tgcaatcaag gccatggcaa aa 462
127 <210> SEQ ID NO: 4
128 <211> LENGTH: 462
129 <212> TYPE: DNA
130 <213> ORGANISM: Rodent
132 <220> FEATURE:
133 <221> NAME/KEY: misc_feature
134 <222> LOCATION: (1)...(462)
135 <223> OTHER INFORMATION: n = A, T, C or G
137 <400> SEQUENCE: 4
138 atggcagacg aaattgattt cactactgga gatgccggg cttccagcac ttaccctatg 60
139 cagtgtcgcg ccttgcgcaa aaacggcttc gtggtgtcca aaggacgacc atgcaaaata 120
140 gtggagatgt caacttccaa aactggaaag catgggtcat ccaagggtca ccttggtgga 180
141 attgatattt tcacgggcaa aaaatatgaa gatatttgtc cttctactca caacatggat 240
142 gtccaaaata ttaagagaaa tgattatcaa ctgatatgca ttcaagatgg ttacctttcc 300
143 ctgtcgacag aaactgggtga agttcgtgag gatcttaaac tgccagaagg tgaactaggc 360
144 aaagaaatag agggaaaata caatgcaggt gaagatgtac aggtgtctgt catgtgtgca 420
W--> 145 atgagtgaag aatatgctgt agccataaaa ccctnngcaa at 462
147 <210> SEQ ID NO: 5
148 <211> LENGTH: 462
149 <212> TYPE: DNA
150 <213> ORGANISM: Rodent
152 <400> SEQUENCE: 5
153 atggcagatg atttggaact cgagacagga gatgcagggg cctcagccac cttcccaatg 60
154 cagtgtcag cattacgtaa gaatggtttt gtggtgtcca aaggccggcc atgtaagatc 120
155 gtcgagatgt ctacttcgaa gactggcaag catggccatg ccaagggtcca tctggttggc 180
156 attgacattt ttactgggaa gaaatatgaa gatattctgcc cgtcgactca taatatggat 240
157 gtccccaaca tcaaacggaa tgacttccag ctgattggca tccaggatgg gtacctatcc 300
158 ctgtccagg acagtgggga ggtacgagag gaccttcgtc tgcctgaagg agaccttggc 360
159 aaggagattg agcagaagta tgactgtgga gaagagatcc tgatcacagt gctgtctgcc 420
160 atgacagagg aggcagctgt tgcaatcaag gccatggcaa aa 462
162 <210> SEQ ID NO: 6
163 <211> LENGTH: 606
164 <212> TYPE: DNA
165 <213> ORGANISM: Rodent
167 <220> FEATURE:
168 <221> NAME/KEY: CDS
169 <222> LOCATION: (1)...(456)
171 <400> SEQUENCE: 6
172 gct gtg tat tat tgg gcc cat aag aac cac ata cct gtg ctg agt cct 48
173 Ala Val Tyr Tyr Trp Ala His Lys Asn His Ile Pro Val Leu Ser Pro
174 1 5 10 15
176 gca ctc aca gac ggc tca ctg ggt gac atg atc ttt ttc cat tcc tat 96
177 Ala Leu Thr Asp Gly Ser Leu Gly Asp Met Ile Phe Phe His Ser Tyr
178 20 25 30
180 aaa aac cca ggc ttg gtc ctg gac atc gtt gaa gac ctg cgg ctc atc 144
181 Lys Asn Pro Gly Leu Val Leu Asp Ile Val Glu Asp Leu Arg Leu Ile
182 35 40 45

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184 aac atg cag gcc att ttc gcc aag cgc act ggg atg atc atc ctg ggt 192
185 Asn Met Gln Ala Ile Phe Ala Lys Arg Thr Gly Met Ile Ile Leu Gly
186      50                      55                      60
188 gga ggc gtg gtc aag cac cac atc gcc aat gct aac ctc atg cgg aat 240
189 Gly Gly Val Val Lys His His Ile Ala Asn Ala Asn Leu Met Arg Asn
190 65                      70                      75                      80
192 gga gct gac tac gct gtt tat atc aac aca gcc cag gag ttt gat ggc 288
193 Gly Ala Asp Tyr Ala Val Tyr Ile Asn Thr Ala Gln Glu Phe Asp Gly
194      85                      90                      95
196 tca gac tca gga gcc cgg cca gat gag gct gtc tcc tgg ggc aag atc 336
197 Ser Asp Ser Gly Ala Arg Pro Asp Glu Ala Val Ser Trp Gly Lys Ile
198      100                      105                      110
200 cgg atg gat gca cag cca gta aag gtc tat gct gat gca tct ctg gtt 384
201 Arg Met Asp Ala Gln Pro Val Lys Val Tyr Ala Asp Ala Ser Leu Val
202      115                      120                      125
204 ttc ccc ttg ctg gtg gct gag aca ttc gcc caa aag gca gat gcc ttc 432
205 Phe Pro Leu Leu Val Ala Glu Thr Phe Ala Gln Lys Ala Asp Ala Phe
206      130                      135                      140
208 aga gct gag aag aat gag gac tga gcagatgggt aaagacggag gcttctgcca 486
209 Arg Ala Glu Lys Asn Glu Asp *
210 145                      150
212 cacctttatt tattatttgc ataccaaccc ctcttgggcc ctctccttgg tcagcagcat 546
213 cttgagaata aatggccttt ttgttggttt ctgtaaaaaa aggactttaa aaaaaaaaaa 606
216 <210> SEQ ID NO: 7
217 <211> LENGTH: 151
218 <212> TYPE: PRT
219 <213> ORGANISM: Rodent
221 <400> SEQUENCE: 7
222 Ala Val Tyr Tyr Trp Ala His Lys Asn His Ile Pro Val Leu Ser Pro
223 1      5                      10                      15
224 Ala Leu Thr Asp Gly Ser Leu Gly Asp Met Ile Phe Phe His Ser Tyr
225      20                      25                      30
226 Lys Asn Pro Gly Leu Val Leu Asp Ile Val Glu Asp Leu Arg Leu Ile
227      35                      40                      45
228 Asn Met Gln Ala Ile Phe Ala Lys Arg Thr Gly Met Ile Ile Leu Gly
229      50                      55                      60
230 Gly Gly Val Val Lys His His Ile Ala Asn Ala Asn Leu Met Arg Asn
231 65                      70                      75                      80
232 Gly Ala Asp Tyr Ala Val Tyr Ile Asn Thr Ala Gln Glu Phe Asp Gly
233      85                      90                      95
234 Ser Asp Ser Gly Ala Arg Pro Asp Glu Ala Val Ser Trp Gly Lys Ile
235      100                      105                      110
236 Arg Met Asp Ala Gln Pro Val Lys Val Tyr Ala Asp Ala Ser Leu Val
237      115                      120                      125
238 Phe Pro Leu Leu Val Ala Glu Thr Phe Ala Gln Lys Ala Asp Ala Phe
239      130                      135                      140
240 Arg Ala Glu Lys Asn Glu Asp
241 145                      150
244 <210> SEQ ID NO: 8

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245 <211> LENGTH: 453
246 <212> TYPE: DNA
247 <213> ORGANISM: Rodent
249 <400> SEQUENCE: 8
250 tccgtgtatt actgggcccga gaagaaccac atccctgtgt ttagtcccgc acttacagac 60
251 ggcctgctgg ggcacatgat ctcttccat tctacaaga acccgggcct ggtcctggac 120
252 atcgttgagg acctgagget catcaacaca caggccatct ttgccaagt cactgggatg 180
253 atcattctgg gcgggggcgt ggtcaagcac cacattgcc atgccaacct catgcggaac 240
254 ggggcgcact acgtgttta catcaacaca gcccaggagt ttgatggctc tgactcaggt 300
255 gcccagaccag acgaggctgt ctctggggc aagatccggg tggatgcaca gcccgtaag 360
256 gtctatgctg acgctccct ggtctcccc ctgcttggtg ctgaaacctt tgcccagaag 420
257 atggatgcct tcatgcatga gaagaacgag gac 453
259 <210> SEQ ID NO: 9
260 <211> LENGTH: 20
261 <212> TYPE: DNA
262 <213> ORGANISM: Artificial Sequence DR
264 <220> FEATURE:
265 <223> OTHER INFORMATION: Primer
267 <221> NAME/KEY: misc_feature
268 <222> LOCATION: (1)...(20)
269 <223> OTHER INFORMATION: n = A,T,C or G
271 <400> SEQUENCE: 9
W--> 272 tcsaarachg gnaagcaygg DR 20
274 <210> SEQ ID NO: 10
275 <211> LENGTH: 42
276 <212> TYPE: DNA
277 <213> ORGANISM: Rodent
279 <220> FEATURE:
280 <223> OTHER INFORMATION: Primer
282 <400> SEQUENCE: 10
283 gcgaagcttc catggctcga gttttttttt tttttttttt tt 42
285 <210> SEQ ID NO: 11
286 <211> LENGTH: 972
287 <212> TYPE: DNA
288 <213> ORGANISM: Rodent
290 <220> FEATURE:
291 <221> NAME/KEY: CDS
292 <222> LOCATION: (1)...(330)
294 <400> SEQUENCE: 11
295 tcg aag acc ggt aag cac ggc cat gcc aag gtc cat ctg gtt ggt att 48
296 Ser Lys Thr Gly Lys His Gly His Ala Lys Val His Leu Val Gly Ile
297 1 5 10 15
299 gat att ttt act ggg aag aaa tat gaa gat atc tgc ccg tcg act cat 96
300 Asp Ile Phe Thr Gly Lys Lys Tyr Glu Asp Ile Cys Pro Ser Thr His
301 20 25 30
303 aac atg gat gtc ccc aac atc aaa agg aat gat ttc cag ctg att ggc 144
304 Asn Met Asp Val Pro Asn Ile Lys Arg Asn Asp Phe Gln Leu Ile Gly
305 35 40 45
307 atc cag gat ggg tac cta tcc ctg ctc cag gac agt ggg gag gta cga 192

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VERIFICATION SUMMARY

DATE: 11/06/2001

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Input Set : A:\10799-13 Sequence Listing.txt

Output Set: N:\CRF3\11062001\I909796.raw

L 5 M:283 W: Missing Blank Line separator, <120> field identifier
L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:145 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:272 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9